

HAT-0019

REMARKS

Claims 1-19 remain pending in the present Application. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. §103(a)

A. Claims 1-13 and 15-19 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,092,970 to Kaczur et al. (hereinafter "Kaczur '970"). Applicants respectfully traverse this rejection.

Independent process Claims 1, 10, and 15 have in common the feature of feeding an aqueous alkali metal chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment.

Kaczur '970 is generally directed to electrochemical processes for producing chlorine dioxide solutions from alkali metal chlorites. The process generally employs a three compartment electrolytic reactor and includes feeding a central compartment with an aqueous chlorite solution. The aqueous chlorite solution feed solution can include additives. The only disclosed and suggested additives are salts such as alkali metal chlorides, phosphates, sulfates, etc. (see Kaczur '970, Col. 5, ll. 7-15).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Kaczur '970 fails to establish a prima facie case of obviousness because Kaczur '970 fails to teach or suggest all claim elements. Specifically, Kaczur '970 fails to teach or suggest a process comprising, *inter alia*, the feature of feeding an aqueous alkali metal chloride solution to the anode compartment to generate an effluent and feeding the anode effluent and an alkali metal chlorite solution to the central compartment. Rather, Kaczur

HAT-0019

'970 teaches and suggests adding salt additives to the central compartment. There is no disclosure of suggestion for feeding an aqueous alkali metal chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment. Because of this, the Kaczur '970 process for chlorine dioxide is markedly different than that claimed by Applicant in terms of process steps and function.

The Applicants respectfully submit that the Examiner, in arriving at this specific construction, has destroyed the intent of the references. In this regard, the courts have held that "[i]f the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon* 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The courts have also held that '[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.'" *In re Ratti* 270 F. 2d 810, 123 USPQ 349 (CCPA 1959). Such is the case here.

As described in detail in Applicant's paragraphs [0043]-[0044], the reaction mechanism for generating chlorine dioxide is believed to proceed along two reaction pathways (IIIa and IIIb) depending on the equilibrium established in the anode compartment. A third reaction pathway (IIIc) is possible only if a central compartment is employed and contains cation exchange material. One of skill in the art would not be motivated to modify Kaczur '970 since the reaction mechanisms are so markedly different from one another as a result of feeding an aqueous sodium chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment. By modifying Kaczur '970 in the manner suggested would change the principle of operation.

In view of the foregoing, the rejection applied to Claims 1, 10, and 15 is requested to be withdrawn. Given that Claims 2-9, 11-13 and 16-19 variably depend from one of these independent claims; they too are patentable for at least the same reasons.

HAT-0019

B. Claims 1-13 and 15-19 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,106,465 to Kaczur et al. (hereinafter "Kaczur '465"). Applicants respectfully traverse this rejection.

Kaczur '465 is a continuation-in-part of Kaczur '970 above. The new matter appears to bne with the use of a chlorine dioxide separator so as to provide a means for separating chlorine dioxide from an effluent. The process for generating the chlorine dioxide appears to be identical to Kaczur '970.

In view of this, Kaczur '465 fails to disclose all elements of the Applicant's claimed invention, which a requirement for establishing a prima facie case of obviousness. There is no disclosure or suggestion of a process comprising, *inter alia*, feeding an aqueous alkali metal chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment. Although Kaczur '465 discloses and suggests the use of an alkali metal chloride as an anolyte, there is no disclosure or suggestion of taking an effluent from the anode compartment and feeding the effluent and an alkali metal chlorite solution to the central compartment as claimed by Applicants. The only additives taught or suggested ion Kaczur is the use of salts as described above. Moreover, as noted above, the use of the effluent from the anode results in a markedly different reaction mechanism and because of this, the reference is insufficient to support a prima facie case of obviousness.

Also, it should be noted that the transfer of the "acid" through the membrane as taught by both Kaczur '465 and Kaczur '970 is limited to hydrogen ions. The anions would remain in the anode compartment. In contrast, the anolyte effluent includes chlorine gas, among others, which hydrolyzes in the presence of water. These mechanisms are markedly different processes.

In view of the foregoing, the rejection is requested to be withdrawn.

C. Claims 14 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Kaczur '465" above and further in view of U.S. Patent No. 5,609,742 to Sampson et al (hereinafter "Sampsons"). Applicants respectfully traverse this rejection.

HAT-0019

Claim 14 depends from Claim 10 and includes the feature of feeding an aqueous sodium chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment. For reasons discussed above, Kaczur '465 fails to teach or suggest a process for generating chlorine dioxide that includes these features. Sampson fails to compensate for the deficiencies of Kaczur '465. Sampson discloses the oxidation of water within its anode compartment to generate hydrogen ions and oxygen. There is no disclosure of feeding an aqueous sodium chloride solution to the anode compartment to generate an effluent and feeding the effluent and an alkali metal chlorite solution to the central compartment. Thus, the combination of references fails to establish a prima facie case of obviousness.


In view of the foregoing, the rejection of Claim 14 is requested to be withdrawn.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

HAT-0019

If there are any additional charges with respect to this Amendment or otherwise,
please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

Respectfully submitted,
CANTOR COLBURN LLP

By 
Peter R. Hagerty
Registration No. 42,618

Date: March 6, 2006
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (404) 607-9991
Facsimile (404) 607-9981
Customer No.: 23413

BEST AVAILABLE COPY